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10/508768

DT04 Rec'd PCT/PTO 22 SEP 2004

<110> Omnigene Bioproducts, Inc., et al.

<120> METHODS AND ORGANISMS FOR PRODUCTION OF B6 VITAMERS

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<150> 60/367863

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BEST AVAILABLE COPY

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 <212> DNA
 <213> Bacillus subtilis

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 <212> PRT
 <213> Bacillus subtilis

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 35 40 45
 Ala Asp Ile Arg Ala Ala Gly Gly Val Ala Arg Met Ala Asp Pro Thr
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 Ile Val Glu Glu Val Met Asn Ala Val Ser Ile Pro Val Met Ala Lys
 65 70 75 80
 Ala Arg Ile Gly His Ile Val Glu Ala Arg Val Leu Glu Ala Met Gly
 85 90 95
 Val Asp Tyr Ile Asp Glu Ser Glu Val Leu Thr Pro Ala Asp Glu Glu
 100 105 110
 Phe His Leu Asn Lys Asn Glu Tyr Thr Val Pro Phe Val Cys Gly Cys
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 Arg Asp Leu Gly Glu Ala Thr Arg Arg Ile Ala Glu Gly Ala Ser Met
 130 135 140
 Leu Arg Thr Lys Gly Glu Pro Gly Thr Gly Asn Ile Val Glu Ala Val
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<210> 22

<211> 988

<212> DNA

<213> *Bacillus subtilis*

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<210> 23

<211> 196

<212> PRT

<213> Bacillus subtilis

<400> 23

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Pro	Glu	Gln 35	Leu	Asn	Glu	Val	Asp 40	Gly	Leu	Ile	Leu	Pro	Gly 45	Gly	Glu
Ser	Thr 50	Thr	Met	Arg	Arg	Leu	Ile 55	Asp	Thr	Tyr	Gln 60	Phe	Met	Glu	Pro
Leu 65	Arg	Glu	Phe	Ala 70	Ala	Gln	Gly	Lys	Pro	Met 75	Phe	Gly	Thr	Cys 80	Ala
Gly	Leu	Ile	Ile	Leu 85	Ala	Lys	Glu	Ile	Ala 90	Gly	Ser	Asp	Asn 95	Pro	His

Leu Gly Leu Leu Asn Val Val Val Glu Arg Asn Ser Phe Gly Arg Gln
 100 105 110
 Val Asp Ser Phe Glu Ala Asp Leu Thr Ile Lys Gly Leu Asp Glu Pro
 115 120 125
 Phe Thr Gly Val Phe Ile Arg Ala Pro His Ile Leu Glu Ala Gly Glu
 130 135 140
 Asn Val Glu Val Leu Ser Glu His Asn Gly Arg Ile Val Ala Ala Lys
 145 150 155 160
 Gln Gly Gln Phe Leu Gly Cys Ser Phe His Pro Glu Leu Thr Glu Asp
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<210> 24

<211> 990

<212> DNA

<213> Escherichia coli

<400> 24

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<210> 25

<211> 329

<212> PRT

<213> Escherichia coli

<400> 25

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 Met Leu Gly Leu Pro Leu Thr Leu Arg Pro Tyr Ser Pro Asn Ser Pro
 50 55 60
 Ala Gln Pro Gln Thr Ala Gly Thr Leu Thr Leu Leu Pro Val Ala Leu
 65 70 75 80
 Arg Ala Pro Val Thr Ala Gly Gln Leu Ala Val Glu Asn Gly His Tyr
 85 90 95

Val Val Glu Thr Leu Ala Arg Ala Cys Asp Gly Cys Leu Asn Gly Glu
 100 105 110
 Phe Ala Ala Leu Ile Thr Gly Pro Val His Lys Gly Val Ile Asn Asp
 115 120 125
 Ala Gly Ile Pro Phe Thr Gly His Thr Glu Phe Phe Glu Glu Arg Ser
 130 135 140
 Gln Ala Lys Lys Val Val Met Met Leu Ala Thr Glu Glu Leu Arg Val
 145 150 155 160
 Ala Leu Ala Thr Thr His Leu Pro Leu Arg Asp Ile Ala Asp Ala Ile
 165 170 175
 Thr Pro Ala Leu Leu His Glu Val Ile Ala Ile Leu His His Asp Leu
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 Arg Thr Lys Phe Gly Ile Ala Glu Pro Arg Ile Leu Val Cys Gly Leu
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 210 215 220
 Thr Ile Ile Pro Val Leu Asn Glu Leu Arg Ala Gln Gly Met Lys Leu
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 Asn Gly Pro Leu Pro Ala Asp Thr Leu Phe Gln Pro Lys Tyr Leu Asp
 245 250 255
 Asn Ala Asp Ala Val Leu Ala Met Tyr His Asp Gln Gly Leu Pro Val
 260 265 270
 Leu Lys Tyr Gln Gly Phe Gly Arg Gly Val Asn Ile Thr Leu Gly Leu
 275 280 285
 Pro Phe Ile Arg Thr Ser Val Asp His Gly Thr Ala Leu Glu Leu Ala
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<210> 26

<211> 732

<212> DNA

<213> Escherichia coli

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<210> 27

<211> 243

<212> PRT

<213> Escherichia coli

<400> 27

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	35	40	45
Asp Arg Arg	His Ile Thr Asp Arg Asp	Val Arg Ile Leu Arg Gln Thr	
	50	55	60
Leu Asp Thr	Arg Met Asn Leu Glu Met	Ala Val Thr Glu Glu Met Leu	
	65	70	75
Ala Ile Ala	Val Glu Thr Lys Pro His	Phe Cys Cys Leu Val Pro Glu	
	85	90	95
Lys Arg Gln	Glu Val Thr Thr Glu Gly	Gly Leu Asp Val Ala Gly Gln	
	100	105	110
Arg Asp Lys	Met Arg Asp Ala Cys Lys	Arg Leu Ala Asp Ala Gly Ile	
	115	120	125
Gln Val Ser	Leu Phe Ile Asp Ala Asp	Glu Glu Gln Ile Lys Ala Ala	
	130	135	140
Ala Glu Val	Gly Ala Pro Phe Ile Glu Ile	His Thr Gly Cys Tyr Ala	
	145	150	155
Asp Ala Lys	Thr Asp Ala Glu Gln Ala	Gln Glu Leu Ala Arg Ile Ala	
	165	170	175
Lys Ala Ala	Thr Phe Ala Ala Ser Leu	Gly Leu Lys Val Asn Ala Gly	
	180	185	190
His Gly Leu	Thr Tyr His Asn Val Lys	Ala Ile Ala Ala Ile Pro Glu	
	195	200	205
Met His Glu	Leu Asn Ile Gly His Ala	Ile Ile Gly Arg Ala Val Met	
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Thr Gly Leu	Lys Asp Ala Val Ala Glu	Met Lys Arg Leu Met Leu Glu	
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Ala Arg Gly			240

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